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ABSTRACT

This guide consists of suggestions designed to assist vocational educators in helping students improve their reading skills. School-related and non-school-related reasons why students have difficulty reading are examined. Discussed in a section on teaching the essential technical reading skills are textbook usage skills, vocabulary development, and comprehension and study skills improvement. Auditory and visual methods for helping bilingual students are provided. Suggestions are set forth for using the services of reading specialists, librarians, and school nurses to help students improve their reading skills. Finally, the teaching of a model reading unit is described in terms of the phases of the school year, from the August preparatory period through the wrap-up stage in June. (MN)

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Professional
Development
Series, no. 6

TEACHING STUDENTS TO READ BETTER

Peter Incardone

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INTRODUCTION

This publication is for the vocational educator who is confronted on a daily basis with students who are experiencing difficulty reading technical materials. It is a practical, "how-to" guide for everyday classroom reference.

Helping students to read better is the responsibility of *every* teacher. Vocational educators, in their role of preparing students for work, know that reading is a vital life skill that can make the crucial difference in a person's success. Learning the skills of a trade must be complemented by the ability to read directions, interpret technical materials and use a variety of resource materials.

Some employers tell us they have applicants who can't figure out what information is required on the employment application. What chance exists for such people? Yet, it doesn't have to be that way. Vocational educators can help their students to improve their reading skills and, as teachers, have that obligation.

But how, you might ask. I'm not a reading specialist, you say. You don't have to be a specialist to help students improve their reading skills. By all means, use the reading specialist on your school's staff, but use this book, too. It describes techniques that will help you to assess your students' weaknesses, to select the better textbooks for them, to aid in their vocabulary development, their comprehension and their study skills. The final section of the book offers a model reading plan you can use for the entire school year.

The improvement of national reading scores will be accomplished when a commitment is made by all professional educators—along with cooperation from the home and outside agencies—to involve themselves in helping students learn to read better.

Part I
WHY DO STUDENTS HAVE TROUBLE READING?

Numerous and complex external factors can contribute to a student's reading difficulties. In a methods publication of this type, we will not delve into intricate psychological causes of reading problems. It is important to say, however, that there is rarely a single cause of a reading deficiency.

CAUSES OUTSIDE THE SCHOOL

For instance, a student who comes to school hungry, tired, ill or angry—for whatever underlying reasons—has less of a chance of reading properly than the peer who enters school ready for work physically and emotionally. A student who begins the day with the vivid memory of a serious family squabble at breakfast can experience difficulty concentrating on reading a detailed shop print or manual. A student who experiments with drugs or alcohol may have trouble sustaining the concentration required to comprehend technical and conceptual information.

Television Viewing

The effects of television viewing are increasingly cited as contributing to poor student reading performance. Apparently, television and other visual media can have both positive and negative effects on readers, depending on the amount of time involved and the personal viewing habits of individual students.

Current data seems to indicate that remedial readers are prone to watch more than two hours daily of television, while grade level or advanced readers seem to watch one to two hours daily of well-balanced television programming. Some good readers also seem to read paperbacks that feature television characters as central figures, after they have seen these same characters on television.

Parents of remedial readers need to know that television and visual media can be useful supplements to classroom learning and for instilling good reading and study habits—if they are properly utilized and monitored. It makes little sense to take television "away" as a form of punishment if a student's grades are mediocre. Rather, the student should be encouraged or redirected toward a more proper use of the media.

Teachers, guidance personnel, health staff members and administrators should coordinate plans to minimize these noneducational problems that affect student reading and learning. A shop teacher who witnesses a pupil constantly straining his or her eyes while reading or performing intricate design work should immediately refer that person to the school nurse for a visual screening. (See Part IV.) The matter also should be reported to the home for follow-up.

Teachers who suspect child abuse and who witness unusual marks or wounds on a student's body should also immediately report their suspicions to the appropriate school administrators. Many states have passed legislation to protect teachers from possible liability for reporting such matters.

SCHOOL-RELATED CAUSES

Analysis of reading programs, sponsored by the National Institute of Education, has revealed that students in today's schools are receiving surprisingly little comprehension instruction beyond the meanings of individual words. The reading taught in elementary schools too often does not give children the help they need to learn to *think* about what they are reading. Poor readers, it's been found, typically do not make even obvious inferences about how one sentence is related to another sentence. They do not link what they are reading with what they already know.

Teachers at the secondary level sometimes think that teaching reading is not their responsibility—that only elementary school teachers are responsible. This is a dangerous and false assumption. Increasingly, states are requiring that secondary level teachers be able to teach reading skills. New Jersey, alarmed by falling reading scores in its public schools, passed legislation mandating that after July 1, 1978, *all* teachers seeking professional certification must have completed two college courses in the teaching of reading. Many other states are following suit.

Secondary vocational teachers should be well-motivated in assisting students to become more proficient readers. Rare is the shop teacher who doesn't realize that vocational training requires intricate reading skills. What teacher does not understand that a student will have great difficulty obtaining meaningful employment, job promotion, status and security unless trained in literacy as well as in a trade?

The very nature of most vocational subjects dictates that teachers be familiar with the complete reading process. Detailed textbooks and manuals, technical words, following directions and complex factual information all demand professional expertise. Along with their academic peers, vocational teachers should maintain their proficiency in the critical reading skills of their subjects. This is best done by attending workshops and conferences and by keeping abreast of current professional literature.

School administrators should encourage all professional staff members to take graduate course work in reading instruction. In addition, periodic inservice sessions should be conducted by the school district so that the entire professional staff may stay aware of the latest research and methodology in the reading field.

Curriculum Demands

Another educational-related factor contributing to vocational reading difficulties today is the extraordinary curriculum and course content involved in daily instruction. Since the launching of Sputnik by the Soviet Union in 1957, school administrators, curriculum specialists and textbook publishers have adopted the policy that a crammed curriculum is a better curriculum. Teachers are exhorted by superiors to "cover" as much content in the school year as possible.

Teachers, under pressure to teach the entire course outline, often give their vocational students large and relatively unexplained reading assignments to be completed for homework to compensate for content that cannot be taught during class time. The result is that teachers cannot fully evaluate the quality of work being done at home. Worse yet, they cannot determine if their students possess the necessary reading skills required to successfully comprehend the assigned

materials. Do students know the proper word attack and phonics skills? Do they understand the vocabulary? Do they read technical materials with the proper sentence sense and understanding required?

Readability of Technical Textbooks

The readability levels of the printed materials being used in vocational classrooms today are generally higher than the grade levels for which they have been adopted. It is not uncommon to find a tenth grade health education textbook written on the college level or an eleventh grade machine shop manuel written on the college graduate level. This is due largely to the very technical nature of the vocabulary involved, the math computation required and the complex factual information that must be mastered.

A veteran auto mechanics instructor, when questioned as to why shop manuals were so difficult for his students to read, noted that it is difficult, if not impossible, to find an everyday synonym for the term *carburetor!* In this statement lies a basic fact about contemporary vocational textbooks in America today—the terminology and vocabulary concepts can be exceedingly difficult for students to master and almost impossible for the bilingual student to comprehend *unless there is adequate preparation for reading assignments on the part of instructors.*

In selecting textbooks, try to find those that best combine current and relevant curriculum with an attractive format and readers' aids. Look for features that will assist in such critical reading skills as vocabulary development and comprehension review. Textbooks that utilize illustrations, attractive graphics and even variations in type face, size and arrangement help the students to learn.

Every effort should be made to adopt a classroom textbook as close to the grade level it will be used at as possible. A ninth grade exploratory shop instructor who orders a book with an average readability at the college level will not only aggravate a reader's deficiencies, but can also dull whatever interest that student may have had in the subject.

All vocational educators should familiarize themselves with any current, simple readability formula. One of the more useful ones, in terms of reliability, practicality and time in administering, is the *Fry Graph for Estimating Readability - Extended.* In a series of short steps, which should take no longer than 30 minutes, a valid grade level score can be obtained on any textbook being contemplated for adoption.

With a copy of Fry's graph and a note pad and pencil in hand, the following steps should be taken:

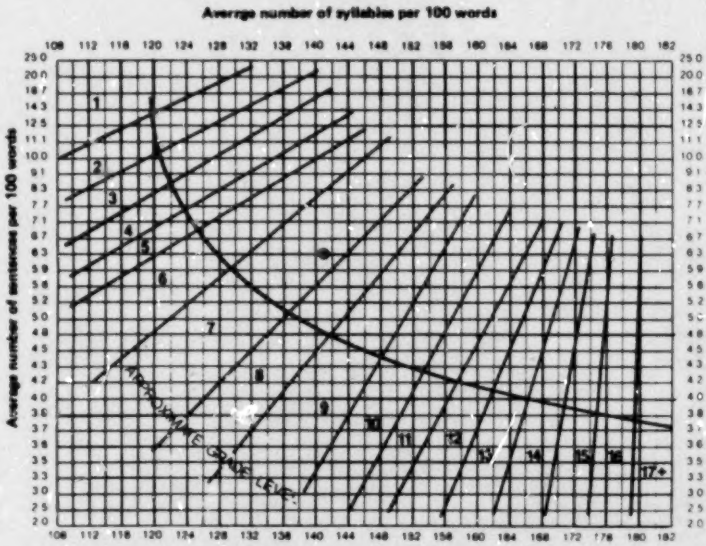
1. Randomly select three passages from the beginning, middle and end of the textbook. Start at the beginning of a sentence and count exactly 100 words in each of the three passages (total of 300 words). Proper nouns, initializations and number groups count as words. For example, *Chevrolet, AVA* and *9.3* each count as one word.

2. Count the number of sentences which comprise each 100-word passage. If the last word in the 100 words is not the final word of the last sentence, estimate the length of the fraction of the final sentence to the nearest one-tenth. (See the example below the Fry graph.)

3. Count the total number of syllables in each 100-word selection. Count one syllable for each symbol. For example, *AVA* has three syllables, *9.3* has two

GRAPH FOR ESTIMATING READABILITY — EXTENDED

by Edward Fry, Rutgers University Reading Center, New Brunswick, N.J. 08904



DIRECTIONS: Randomly select 3 one hundred word passages from a book or an article. Plot average number of syllables and average number of sentences per 100 words on graph to determine the grade level of the material. Choose more passages per book if great variability is observed and conclude that the book has uneven readability. Few books will fall in gray area but when they do grade level scores are invalid.

Count proper nouns, numerals and initializations as words. Count a syllable for each symbol. For example, "1945" is 1 word and 4 syllables and "IRA" is 1 word and 3 syllables.

EXAMPLE:	SYLLABLES	SENTENCES
1st Hundred Words	124	6.6
2nd Hundred Words	141	5.5
3rd Hundred Words	158	6.8
AVERAGE	141	6.3

READABILITY 7th GRADE (see dot plotted on graph)

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and > has one. (Since every word has at least one syllable, an easy way to count each 100-word passage is to simply place a pencil mark above every syllable over one in each word. When you finish the passage, count the number of marks you've made and add 100.)

4. Find the average of the syllable counts and the average of the sentence counts. Enter these figures on the Fry graph, placing a dot where the two lines intersect. The area where the dot is plotted will give you the approximate grade level of the textbook.

If a great deal of variability is found in the syllable or sentence counts, put more word samples into the final averages.*

Knowledge of Essential Reading Skills

Reading is a process that involves hundreds of interrelated skills. When a reader fails to master a number of such skills, reading deficiencies become compounded. The chart on "Basic Reading Skills in Vocational Education Subjects" presents a *general* listing of these key skill areas. Teachers should add to this list additional skills they consider essential for being a successful reader in their respective teaching areas. These skills can then be discussed at department meetings and ideas exchanged with the school's reading personnel.

Basic Reading Skills in Vocational Education Subjects

Vocabulary:
- general terms
  - ex. disengage, cylinder
- technical terms
  - ex. annealing, tinning
- "shop talk" or slang
  - ex. "half-dog point"

Latin/Greek Root Words

Key Prefixes/Suffixes:
- ex. phobia, hydro-, -itis, anti-, post-

Importance of Words/Terms in Italics/Bold Print

Symbols, Abbreviations, Acronyms:
- ex. SLO-SYN, ASHRAE

Following Directions

Math Solutions/Directions:
- reading graphs, tables, math symbols, clues
- ex. $\geq$, $\therefore$

Ability to Recognize and Use Tools, Machines, Equipment

Slow, Careful Reading and Re-Reading Skills, Proofreading

Wide Outside Recreational Reading in Related Shops:
- ex. reading magazines, trade journals, newspapers

Expressions of Relationship:
- ex. formulas, equations

Pictorial Presentation:
- ex. charts, sketches, pictures, illustrations

Comprehension:
- recalling facts/details
- choosing main ideas, concepts
- drawing conclusions
- making inferences, judgments
- placing events, items in order
- observing cause and effect
- perceiving relationships
- ability to think critically

Study Skills:
- use of table of contents
- use of index
- use of glossary
- use of dictionary
- understanding footnotes
- use of text special features
- importance of bold headings

Use of Reference and Locational Materials:
- reader's guide
- encyclopedia
- medical/special dictionary
- periodicals

Proper Note-Taking:
- notebook forms
- use of index cards for notes

Outlining

Listening Skills

* Source: Edward Fry, Rutgers University Reading Center, New Brunswick, N.J. 08904.

Part II
TEACHING THE ESSENTIAL TECHNICAL READING SKILLS

As mentioned earlier, the textbooks in use today—with their expanded content, the inclusion of more scientific and technical findings, and an expanding and *changing* vocabulary—can pose a challenge to the average student, much less the student with reading difficulties.

TEXTBOOK USAGE SKILLS

The problems are compounded when a student does not know how to use the textbook properly. So much time is spent in the elementary grades with teaching students *how to read* that it's sometimes just assumed that once reading is learned, so is the practice of using a textbook. A frequent complaint by high school students is that few teachers took the time to open a textbook with them and point out the pertinent parts such as glossary, index, footnotes, italicized words, review sections and special features.

Vocational teachers who employ *any* printed materials in their classes need to spend some time at the beginning of the school term assessing their students' abilities to use the printed material and helping them to overcome any weaknesses.

The Informal Textbook Inventory

The Informal Textbook Inventory, commonly referred to as the ITI by reading specialists, is a simple procedure that can help pinpoint and remedy various reading skill deficiencies. The ITI can be constructed in a relatively short period of time and can be used for as long as the same text from which it was drawn is used in class. Among the ITI's functions are:

1. It identifies key reading skills.
2. It gives the teacher an immediate diagnostic view of the skills not yet mastered by students.
3. It presents a total picture of the reading strengths and weaknesses of an entire class.
4. It facilitates grouping the class by ability.

Prior to the beginning of school, the text or manual to be used in class should be reviewed and a series of 10 to 20 questions developed. Each question will test a reader's knowledge of a key book usage skill. The sample Informal Textbook Inventory offers examples of questions to be developed.

After every student is given a copy of the text or manual at the start of the term, the instuctor should inform the class that a short (one-half hour) informal survey will be administered. The teacher should stress that the purpose is to assess reading difficulties so that assistance may be rendered where necessary. Under no circumstance should the ITI be considered or called a test. It is purely diagnostic and students should be given an honest rationale. Also, it serves no purpose for a teacher to "pass" or "fail" or assign a letter grade to such an exercise.

Informal Textbook Inventory

1. Why is the Introduction on Page __ important to you as a student of ____ __? (book introduction question)

2. Which chapter comes first in this book? The chapter on _____ or the chapter on _____? (table of contents question)

3. Turn to Pages __ and __. Why does the author put certain print in italics (or red or bold print?)? (key words question)

4. Turn to figure __ on Page __. What does this figure depict? (pictorial reading and locational skills question)

5. If the reader had to get a quick overview of the contents of Pages __ to __, how could this be done without reading the contents? (use of bold-print headings question)

6. Chapter __ begins on Page __ and ends on Page __. If the reader wanted to obtain an idea as to the critical content to look for while reading, where would one look first? (use of summary, review or guide questions at chapter end)

7. On what pages would a reader find information about the following key details or facts: _____, _____ and ____? (index question)

8. There is a special section in this book for important terms and words. What is it called? On what page does it begin? (glossary question)

9. There is a special section in this book for tables and charts which contain important information. On what page does it begin? (reader's aids question)

10. You will be given several minutes to carefully read Page __. Then you will be asked the meanings of five words which appear on that page. You will not be permitted to reopen the book when time has elapsed so read carefully and try to understand the meanings of key words in the context of the sentence in which they appear. (vocabulary question)

11. You will be given several minutes to carefully read Page __. Then you will be asked five questions on important facts and details which appear on that page. You will not be permitted to reopen the book when time has elapsed. (understanding facts/details)

12. You will be given several minutes to carefully read Page __. Then you will be asked five questions on main ideas and concepts which appear on that page. You will not be permitted to reopen the book when time has elapsed. (main ideas/concepts question)

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It is important that the class does not receive a copy of the questions at any time and no preview work should be undertaken. The class exercise should be completely spontaneous.

Students are instructed to write their answers on a piece of lined paper. The questions are dictated to the class with a few minutes allowed for each answer. Papers should be immediately collected and returned to the students later for correction. As the answers are given by the teacher, students will place a mark indicating they had a correct or incorrect answer. The papers are collected again, and with a skills grouping sheet (see example), marks are placed beside each student's name indicating the errors committed. With all errors recorded on one sheet of paper, the instructor has a quick overview of the entire class without having to go through all the individual answer sheets.

Skills Grouping Sheet

Pupil Names																	
																	Book Introduction
																	Table of Contents
																	Pictorial Reading
																	Locational Skills
																	Bold-Print Headings
																	Chapter Summary
																	Index of Book
																	Glossary
																	Reader's Aids
																	Vocabulary
																	Facts/Details
																	Main Ideas/Concepts
																	Key Words
																	Diagrams*
																	Symbols/Signs*
																	Special Features*
																	Math Processes*
																	Charts*

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*Possible Additional Skills

With this information about the strengths and weaknesses of every reader, the vocational instructor can then plan short periods of time during the week to work with individual groups of students who have similar problems. Copies of the skills grouping sheet should be given to the reading specialist on staff and to the English teachers so they can offer additional assistance to students. A copy

should be given to the guidance staff as well so that parents may be informed when they are scheduled for parent conferences.

VOCABULARY DEVELOPMENT

Of all the basic skills at the secondary level, lack of adequate vocabulary development is a major factor leading to reading difficulties. And since vocabulary and comprehension are closely related, a student who is experiencing difficulty with words and their meanings will also suffer in reading comprehension.

The problem with vocabulary instruction in the content areas is that available research does not identify a *single* best way for instructors to teach vocabulary. Different students best learn the meanings of new words by a variety of methods, which makes uniform instruction difficult.

In general, students will have a better chance of retaining the meanings of more complex technical terminology if they are given something to relate the word to. In addition, they will have more success at word retention if the concept (of which vocabulary is a part) has been successfully learned. This is referred to as vocabulary-conceptual development.

Using Vocabulary-Concept Sheets

The vocabulary-concept sheet is a useful tool for aiding vocabulary-conceptual development. Each student is given a blank copy of the sheet at the beginning of a unit or new course of study. As the unit progresses and new terminology is introduced, students are instructed to write these words in the appropriate categories. At the end of the study, a comprehensive and composite listing of unit words and terms, in the context of the concept being taught, has been developed.

Students should be instructed to utilize these sheets when a class lecture is taking place, when a demonstration is being given or when they are reading an assignment. The sheets should remain in some form of notebook as several might be needed for one unit of study. During the unit study, instructors should periodically check the sheets and students should refer to the sheets when studying for examinations.

Instructors should make several hundred copies of this sheet and place them in a central location in the room so that when students have completed one, they may simply pick up another. When introducing how to use the sheets, it's a good idea to give all students a copy of a filled-in example.

Introduce New Vocabulary

Although the research on "a best way" to teach all students vocabulary is not conclusive, reading specialists agree that teachers who devote adequate time to introducing key terminology at the start of every new unit of study and who conduct some form of follow-up, do enhance readers' vocabulary skills.

The vocational educator who carefully reviews a chapter or concept prior to assigning any readings and prepares a list of significant words, terms, symbols and abbreviations for study and drill, does much to minimize potential reading difficulties. This drill can be in the form of discussion, matching words with

Vocabulary-Concept Sheet

CONCEPT of

(fill in)* AUTO ENGINE TUNE UP

classifications

tools REQUIRED (fill in)	RATCHETS	WRENCHES	SOCKETS		
PARTS USED (fill in)	SPARK PLUGS	POINTS	CONDENSER	DISTRIBUTOR CAP	ROTOR
ELECTRONIC EQUIPMENT (fill in)	TIMING LIGHT	TACH METER	EMISSIONS ANALYZER		
OTHER (fill in)					

Other Important
Words, Terms or Symbols: _____ _____ _____

_____ _____ _____

* Example of vocabulary and conceptual development in auto-mechanics shop. As teacher is giving demonstration in concept of engine tune-up, students are required to write in names, words, terms and symbols of key aspects of study. This format may be used by any instructor of any shop, lab or class by simply writing pertinent classifications of words on left hand side.

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definitions, crossword puzzles, fill-in exercises or any of the many ways that will stimulate attention and retention. The important thing is that vocabulary instruction must be given by the teacher of the concepts being taught.

Generally, every teacher should try to incorporate the following methodology when using printed materials of a very technical nature:

1. Extract all key vocabulary at the beginning of study and review *prior* to having students do any reading.

2. Midway through the chapter or concept reading reinforce the vocabulary review by giving a brief exercise or quiz.

3. Avoid having remedial students read chapters that are overly difficult in readability; visual and lecture methods should be substituted instead.

4. Difficult chapters that must be taught should be outlined on stencil or ditto by the teacher in his or her own terms and copied for each student so that comprehension is facilitated.

5. Attempt to employ, as often as possible, outside reading materials which are less complex and easier to comprehend.

6. Skip those pages with extraordinary detail and material if they are not necessary.

7. Spend time each week orally reading complex passages to the class so they may rely on teacher expertise for sentence sense, comprehension and understanding. Oral reading is especially valuable to bilingual learners.

8. Write a detailed paragraph on the chalkboard exactly the way it appears in print and do an oral sentence by sentence analysis with the class.

9. Use as many pictorial clues as possible.

10. Stress slow, careful reading for technical passages. Speed reading and skimming should not be encouraged.

Teachers need to remember, too, that the reading staff can be a valuable adjunct to the vocational instructor. If given weekly lists of classroom terms, the reading specialist can reinforce classroom and shop learning. In addition, with the severely disabled reader, the reading staff can review and drill in the areas of phonics and elementary word attack skills, especially with multisyllabic terms. Secondary teachers rarely have sufficient time to do this, although they should attempt to when needed.

Finally teachers should keep in mind that vocabulary is the key to improving other reading skills as well. In addition to the relationship to comprehension, vocabulary skills are associated with the speed of reading. If a reader doesn't have to stumble on a word when reading or stop to think of a meaning, reading rate stays consistent and less time is required. Slow readers usually have poorer vocabulary scores than faster, more consistent readers.

COMPREHENSION/STUDY SKILLS IMPROVEMENT

The improvement of comprehension and study skills go hand in hand. Until a series of new research studies appeared in the mid-1970s, comprehension was basically treated as a number of isolated skills, for instance, factual information, main ideas and concepts. Most teachers, through no fault of their own, tried to assist readers with comprehension difficulties by two methods: drill or repetition and workbook exercises which accompanied textbooks and manuals. These exercises encouraged "parroting" back but did not require students to use many other skills important to reading comprehension.

Today it is known that various comprehension skills—possibly as many as 250 such subskills—are interdependent on many other aspects of reading, especially word recognition and vocabulary. Also, the various comprehension subskills are usually closely related to each other. For instance, how can a student

in home economics successfully put a recipe into effect (conclusion) if she or he cannot think of the ingredients called for (facts and details) and cannot recall the order of mixing (sequence)?

Among the many interrelated skills required for comprehension are: identifying the purpose of reading; detecting bias and opinion; perceiving relationships and relevant details; determining cause and effect; using abstract thinking; making judgments; recall; making inferences; understanding concepts, sequence, main ideas and key facts and using critical thinking.

Students who have good study habits comprehend better because they are more capable of separating significant facts and concepts from irrelevant material while reading. These students are also better equipped to organize their thoughts, take lecture notes and retain what has been taught.

Vocational educators can take at least two important steps to improve comprehension and study skills. First, assist readers in developing a structure for asking self-study questions. Second, introduce practical study aids to help the reader identify and retain key information.

Self-Study Questions

Reading has always been a thinking process. The quicker we can get vocational students to understand this, the better for them. All readers, to be more effective, must learn to train their minds when reading. In other words, students must be encouraged and trained to become *active*, not passive, readers. This can be done by having students develop self-study questions whenever they have important reading matter.

At the start of a key reading assignment, the class, regardless of its reading abilities, should be given a set of questions for review. The instructor should spend a few minutes quickly going over each one. Such comments as "This is very important!" or "You can't complete the process without this answer" are valuable signals to all readers.

The questions should be geared toward building a general framework in which all important factual information will fall into place. Some of the questions should require the students to do more than just recall. When a student learns how and where to look for critical information, comprehension skills will improve.

As the students read the assignment, frequent reference should be made to the prepared self-study questions. Answers should be written in a notebook and the questions should be discussed in class so that comprehension may be evaluated.

This method should be repeated at the beginning of every new unit of study. After a period of several months, comprehension and critical thinking skills should show some form of improvement. If the method is employed by several teachers in one school, students will begin to see a significant correlation between reading and the various shop areas.

It cannot be stressed too much how important it is to help students to learn to think about what they are reading. As adults, we may tend to take it for granted that as students were taught to read, they were also taught to think about and to ask questions about what they were reading. Unfortunately, this is just not so in many cases. These study questions will help students to think and question and are one of the more valuable aids you can give them.

Sample Self-Study Questions for Better Comprehension*

Critical Thinking Skills:
1. How does the information on Page ___ affect you as a future _____?
2. If _____ were to occur, what would probably happen next?
3. What would be a good second title or heading to this chapter or section?

Main Ideas/Central Thought Skills:
1. List 5 important ideas mentioned on Page ___.
2. Why is _____ so important to _____.
3. Think of a title or heading for Page ___.
4. Why is it important that the reader understand_____?

Sequence Recall Skills:
1. What occurs first in the process of _____? What happens next? What is the conclusion?
2. What is the proper order of mixing the following items (ingredients, chemicals, etc.)? _____, _____, _____, _____.
3. In case of _____, the first thing that should be done is _____?
4. The tuning of a _____ is done in the following sequence: _____, _____, _____, _____.

Facts/Details Skills:
1. List the key _____ needed to complete _____.
2. What tools (utensils, equipment, machines, etc.) are needed to finish _____?
3. List three causes of _____.
4. Why is it important to recall the parts which make up a _____? Name them.
5. Compare _____ to _____. Which is better? Why?

Cause and Effect/Relationship Skills:
1. Why is _____ necessary for completion of_____? Can it be done without it? Why?
2. What is the effect on _____ if _____ happens?
3. Think of a substitute for _____ if it is not available.
4. If _____ happened in the process of _____, what would probably occur?

* These questions may be used in any shop, lab or classroom by adapting open spaces to topic being read. Teachers should add to this list to fit individual class requirements.

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Finally, remember that these guide questions are for training good study and reading habits. They sometimes fail to cover all of the critical information a teacher might require. These gaps should be filled by lectures, demonstrations, discussions and written reports.

Study Aids

All teachers are responsible for giving training in the art of good study techniques. After all, aren't students required to study in every course or subject? Is this another process that should be taught only at the elementary level of education? Just look at the abundance of study skills textbooks at the college and adult levels on the market today.

The process for improving study techniques is fairly similar to comprehension improvement. Generally speaking, most students need to be shown a routine or

Study Aid Sheet

Subject:
Health __
Auto __
Carpentry __
(Type in Course Area)

Chapter Title

Homework Assignments

Tests:

Main Ideas, Concepts, Conclusions

Important Words

Word	Meaning

Key Facts, Figures

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method for studying. Once this is done, they develop a greater sense of direction and independence.

One way of establishing a routine is to prepare a general study aid format. Various examples can be custom made for individual purposes or classes, but basically the same information should be included regardless of level or shop area.

Such a study aid should include as much reference to pertinent reading material as possible, in addition to serving as a reminder for essential chores to be completed such as questions to be answered, homework to be done and upcoming tests.

In effect, the study aid as depicted in the example becomes a substitute for a notebook, which in itself provides little direction. Whenever students are required to write down critical information, they will use the study aid sheet instead of ordinary paper. It may be used for lectures, demonstrations, when visual aids are shown and for reading assignments.

The teacher should first demonstrate the proper use of the study aid sheet at the beginning of the year. This is best done by giving everyone several copies and then conducting a five to 10 minute lecture on a simple course concept, instructing the class to take notes using the special sheet. As the talk proceeds, students should note as much relevant data as possible and make comments to themselves in as many sections of the sheet as necessary.

Several days later the same process should be repeated, but this time a film or filmstrip should be shown. The instructor should check each paper to determine if the proper ideas were jotted down. Where a student consistently omits significant information, it probably indicates a weakness of skill. This should command the attention of the teacher and reading specialist.

Teachers may, of course, modify the aid sheets to meet the needs of their individual classes. Students should keep all sheets in chronological order in a binder for periodic inspection and should be rewarded occasionally for keeping and using the sheets.

In conclusion, comprehension and study habits are closely associated with one another. Usually a weakness in one appears in the other. The best method for helping students is to assist in the establishment of a format or training technique and to demonstrate its most effective use.

Part III
ASSISTING THE BILINGUAL STUDENT

Today more and more people who are not native English speaking are attending vocational-technical secondary schools and adult training centers. These people may need special assistance. It should be made clear at the onset of this section that all teaching methodologies, materials and aids discussed in this publication apply to the training of the bilingual or second-language student as well as the native born American.

Probably the only major difference between both types of students is that we might have to apply *additional* teaching procedures to assist the second-language student. This can be accomplished by utilizing the person's native language and habits as a basis for additional and relatively new instruction.

Vocational-technical instructors should employ as much variety as possible in their daily class routine. If the bilingual students' reading skills are not close to grade level, try not to place heavy emphasis on making reading a major source of learning. Instead, the variety in daily instruction should center on a combination of auditory and visual methods. Students will have a chance then to use their strengths and won't have to rely solely on weakness, which obviously is the written language.

AUDITORY METHODS

Auditory forms of instruction are helpful to the bilingual learner because they introduce proper phonics and word attack skills. As the chances are great that the parents or relatives of these students do not speak fluent English at home, the only formal chance to hear correct usage is the classroom. This is why it is imperative that technical teachers, as with all educators, speak clearly and with moderate speed so that everyone in class may have the opportunity to hear the correct pronunciation of regular and technical words.

It is highly recommended that teachers tape on a small cassette recorder some of their important lectures, along with significant terms and vocabulary. Many limited-English speakers are too shy to ask in front of an entire class for the teacher to repeat a term or concept which was not understood. However, if the teacher's talk is taped, the student can take the tape home and the missed word or idea can be played and replayed. Students who have their own tapes and recorders should be encouraged to bring them to class.

Whenever new technical terminology is introduced to the class, it should be written on the chalkboard, broken down by syllables and discussed. Where possible, assign a common synonym to each new term for clarification. Oral review of new words is vital because it gives students the opportunity to hear the proper sounds. When they see or hear the words later, they will have a better chance of recognizing them.

Read Aloud in Class

Some secondary educators think that oral reading in class is an "elementary school game." This simply is not true. Anyone learning a language, whether it's a baby listening to parents or a newcomer to a country, learns by listening and repeating what is heard. That is why it's important for technical instructors with bilingual learners to read large segments of text material aloud. Students will begin to pick up the basic nature of the technical information when the instructor affords the opportunity to listen.

Teachers should select some vital textbook information and spend five to 10 minutes reading it to the bilingual students. The reading should be done in a moderate, even speed with careful attention paid to sentence sense, pronunciation and punctuation skills. Sometimes, critical information should be reread for emphasis. Whenever an important word, symbol or abbreviation appears, the teacher should write it on the chalkboard and have the class jot it down for later reference.

It also helps to reverse this procedure occasionally. The instructor should call a group of bilingual students to the desk and ask them to take turns reading passages, making corrections along the way.

VISUAL METHODS

Visual forms of instruction are beneficial to students learning English, as well as to the native born. Films, filmstrips, bulletin boards and chalkboards all help to reinforce what is being taught. Don't make the mistake of assuming that the class has a picture in mind of the object or abstract that is being discussed. Especially with technical material this can be a false assumption.

In addition, some research seems to indicate that when teachers place easy-to-read and conspicuous signs or labels on important tools and instruments, retention of meaning increases. This, in turn, increases the basic sight vocabulary of the learner. Such signs and labels improve the skills of word recognition, word meaning and context.

Use as many posters, sketches and pictures as possible to provide reinforcement of the concept or process being taught. Refer frequently to pictures in books and manuals while lecturing.

Field trips to places of business in the nearby community can also be valuable. They are especially helpful to those who came from rural areas in their native lands where little, if any, modern technology existed. A trip to a modern automobile center, computer firm or hospital serves to expand experiences, perception, vocabulary and concept development—all critical ingredients for new language development.

Finally, it should be emphasized that there is little need for different curricula with foreign-born or limited-English speaking students. If the material being taught is important to the field, it should be taught to *everyone* in class regardless of birthplace or first language. Some changes in instructional methods may be necessary but this is the responsibility of those of us involved in teaching the bilingual student in America today.

Part IV
USING OTHERS ON SCHOOL STAFF

In helping students to improve their reading skills, teachers do not have to shoulder the entire burden. There are others on staff who can make the teaching responsibilities easier, who can make the learning experiences more enjoyable for students and who can help detect potential problems.

READING SPECIALIST

Many vocational schools and technical centers now have reading personnel on staff and teachers should take advantage of the expertise they have to offer. Their work should not be limited to tutoring small groups of remedial readers all day. Teachers should ask the reading personnel to visit classrooms early in the year. They will be able to make suggestions on choosing textbooks, on making the best use of textbooks and other printed materials and in administering the Informal Textbook Inventory as described in Part II.

The reading specialist might give a demonstration reading lesson to the class early in September. Occasionally the specialist could also team-teach a key lesson. While the vocational teacher explains the concept, the specialist can reinforce some basic reading skills.

Information on the learning problems of students should be shared with the reading staff. The opportunity to work with the reading specialist should be available not only to the remedial reader, but to the average and gifted reader as well.

Finally, occasional inservice workshops should be scheduled to make the most of the skills the reading personnel have.

LIBRARIAN

If students are to become better readers, they must have a wide selection of reading materials available to them. They need to see the latest in print, especially in their chosen fields of work.

This is where the school librarian becomes a key resource person. It is a responsibility of the librarian to help students to enjoy reading. It is the job of the librarian to provide a well-stocked and conducive area for sustained periods of reading.

All vocational teachers should forward related reading lists to the school librarian so that a centralized reading location can be formed. When they hear of new books or periodicals that their students would enjoy, they should let the librarian know. In addition many trade associations and union organizations will send free copies of their newsletters and pamphlets to school libraries.

Several times during the academic year, all teachers should take their classes to the library for both informative and recreational reading related to the content

areas. This helps to reinforce the relationship between reading and work and to impress upon students the importance their instructors place upon reading.

The librarian, buttressed by the support of classroom teachers, can show students how to make the most of the school library. Reference books, the Reader's Guide and the Dewey Decimal system are just as vital to vocational students as to regular academic peers.

The librarian can also direct readers to sources of information related to respective fields, for instance, the history of the automobile in America, the rise of the sweat shop in labor, the comparison of old printing techniques to modern day ones and the study of various forms of energy, just to cite a few examples.

Everyone associated with vocational education today is well aware that job advancement depends mostly on one's grasp of skills, experience and literacy. The librarian is in an ideal position to enhance students' literacy.

SCHOOL NURSE

This author has felt for some time that many school systems do not effectively use the services of the school nurse and medical office. In travels around the country, it is usually observed that school nurses basically perform two duties: apply first aid when required and teach health education courses.

Fortunately, more administrators are beginning to realize that school nurses do play a vital role in the school's reading program. Some states have even gone so far as to encourage medical personnel to play an active role in reading. New Jersey, for instance, now mandates that if a school nurse is going to teach health education in the classroom, the person must have taken two college courses in reading skills.

For the total school reading plan to be effective, nurses must be assigned certain responsibilities. These are 1) screening of visual-aural disabilities and 2) parental training on the learning environment.

Screening of Visual-Aural Disabilities

Screening is an essential part of the reading plan. Good vision and hearing are important to good reading skills.

At the beginning of the year, a visual acuity test should be administered to the entire student population. A word of caution here: the *Snellen Visual Chart* does not test visual acuity as much as it tests for seeing at a distance. There is a big difference between reading a book held only 12 to 18 inches from the eyes and viewing road signs at a much greater distance. The latter is what the Snellen screens for best.

A telebinocular machine is recommended for visual screening since this will give an accurate picture of visual sharpness, or the ability to focus on the printed word. The school doctor or nearby optometrist should recommend a particular model to the school, but generally, the *Keystone Visual Survey* and the *Professional Vision Tester* are two of the better models.

Parents should be sent written notice of any visual weaknesses detected by the screening. The nurse should follow up within a reasonable amount of time to make sure proper medical correction took place.

The screening of hearing problems is also important, since students with problems can miss key instructions, vital parts of classroom lectures and new terminology. These obviously affect comprehension. For students who do not have English as their native language, the hearing test is particularly important since they must depend heavily on listening to compensate for reading deficiencies.

Any audiometer hearing instrument can be used to test hearing. The school nurse should plan to test the entire population at least once every two years. As with visual screening, parents should receive written notice of any weakness detected and some form of follow-up should take place.

Parental Training

Parents are the first teachers children encounter in life. Schools should learn to tap this natural source of support more effectively. If educators are dissatisfied with the lack of parental assistance given, then it is up to them as professionals to implement new programs to change this situation. The school nurse is in an ideal position to plan these programs.

Most schools conduct yearly "back to school" nights and parent conferences. These are opportune moments for the school nurse to conduct a brief (15 minute) workshop with parents alerting them to their responsibilities in helping their children learn.

A brief handout with explanation can serve as a valuable guide to parents in helping students to avoid difficulties. Most parents would be only too willing to help if they were given some direction. The Guide Sheet for Parents is an example of the type of handout parents should receive.

Health care and its relation to learning should be the focus of the presentation. Proper dietary and sleep habits should be emphasized along with the importance of good school attendance. Parents should also be given some warning clues for teenage drug and alcohol abuse.

As one can easily see, the improvement of reading skills requires the cooperation of all professional staff members along with cooperation from the home. Dr. Miriam Schleich, noted author on reading, put it clearly some years back when she wrote that "reading is a lifetime process, never fully mastered at any one level." *Everyone* has a responsibility in training a young person to be a good reader.

Guide Sheet for Parents

Health Tips:

1. Be certain children receive at least eight hours sleep nightly.
2. Provide children with proper diet and exercise program.
3. Have children's eyes and ears checked once a year by specialist.
4. Have children maintain reasonable body weight; overweight children are not healthy.
5. Help your children to avoid absences from school for minor reasons; obtain home tutorial assistance if absences are extended for long periods of time.
6. Too much daily television viewing is not beneficial. Approximately one to two hours daily is sufficient. Have children read about something which re ates to what was seen on television.

Educational Tips:

Ages 1 to 4	Ages 5 to 8	Ages 9 to 18
read to child at least 15 minutes everyday	encourage child to read daily	be sure child has a daily schedule for studying
do not talk in "baby talk", speak in complete sentences	continue to read to child daily	provide child with a quiet area in home in which to study
buy educational games and kits for gifts; word games, picture books and junior dictionaries are good	take child to library weekly	make certain that child has a notebook for class notes and all homework assignments
ask questions about daily things and seek responses.	show an interest in homework assignments	continue to use the library
take on trips around the community to build experiences and word development	use a cassette tape recorder with child and let child listen to him/herself for language improvement	encourage letter writing to friends, relatives and letters to the editor
	buy books for gifts	do not hesitate to call school for periodic parent conferences
		buy books for gifts

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Part V
A MODEL READING UNIT

The purpose of this concluding section is two-fold. One, to tie prior sections into several final cohesive thoughts, and two, to provide readers with a sample reading model when setting up their goals, curricula and materials for the beginning of a teaching year. These last pages are, in short, meant to be a guide for vocational teachers to follow from September to June.

It would be difficult, if not impossible, to try to explain *every* potential reading problem in *every* class that could arise on a daily basis. For simplicity, the instructional field of dental assisting (high school level) was selected to conclude this text. Readers who are instructors in other shops should employ the following methodology and ideas suggested but, obviously, substitute their own shop content, materials and skills.

Remember that it is the teacher who comes prepared to the classroom who experiences less difficulty with student reading problems. Also, the teacher who does some basic preliminary work will best serve all types of readers.

A TYPICAL CLASS

In this section, let us assume you are a typical teacher of dental assistants at the tenth grade level in a county vocational high school. You have 28 students in your class and nine of then are reading more than one grade below the tenth grade, with four of these nine reading below the seventh grade level. The basic textbook you'll be using with the class is a 1978 edition nearly 800 pages thick with an average readability level between high school junior year level and college sophomore level. There are 30 chapters in this book and you wish to adequately teach at least 24 which you consider essential for dental assisting careers. You realize there are approximately 175 to 185 teaching days, which average out to approximately seven teaching days per chapter or unit. You can modify this slightly as the year progresses due to missed days, emergencies and illness, but you know you'll generally allow this amount of time to teach.

AUGUST

Prior to the opening of school, you should take all your printed teaching materials home for careful inspection and evaluation. You begin to look for potentially difficult items. Those pages that are overly complex in terms of readability and concept should be given careful scrutiny. Sometimes it is better to extract the concept or idea from the printed material and put it into your own words by typing it on a ditto or stencil and making sufficient copies for every student. By lowering the readability level and decreasing the "intensity" of the concept, you give weak readers a better chance to comprehend what is being read without sacrificing the message. This is especially true in scientific areas as dental assisting.

All teaching materials (charts, texts, manuals, audio-visual materials) should be examined *prior* to September for the purpose of eliminating the unessential. After this is completed, the Informal Textbook Inventory (ITI) should be constructed, as described in Part II. This is an important diagnostic tool since it will give a detailed profile of the reading skills of every student in class. Questions for the ITI should be prepared in advance so that they are well-thought out and ready to be administered the first week of school. As long as the same book is being used, you may employ the same questions every year, so be certain to save all questions.

SEPTEMBER AND OCTOBER

The conscientious teacher uses the opening weeks of school wisely to pave the way for a smooth teaching year and to avoid encountering needless problems later. To minimize reading problems and to aid the remedial reader, while making reading more enjoyable for *all* students, there are five facets of classroom routine that should be emphasized along with the regular course curriculum:

- classroom diagnosis
- classroom organization
- pupil observation
- informal student grouping
- use of adjunct staff

Classroom Diagnosis

The first few weeks of school you should review the standardized reading scores of your students. This will provide a general picture of the strengths and weaknesses of all students in the class plus other language background information. The guidance office usually has these scores. Have the guidance personnel analyze the scores with you, especially in the vocabulary and comprehension areas. Ask questions about obvious pupil weak points. Look for gifted and above average readers. Make mental notes, but a word of caution here: do not make any *final* judgments based solely upon standardized reading scores. There is more—much more—to one's reading capabilities than can be measured by a single test score.

The purpose of looking at standardized scores at the beginning of school is to obtain patterns of strengths and low points. Such scores are good at alerting teachers to students who are consistently poor, or good, readers. This information should save you time later. If possible, ask the guidance staff for prior test scores so you can follow your class for several years. After you have all of this information, file everything in your memory bank (and on an index card or two!) for later use.

Classroom Organization

To encourage learning, classrooms, shops, labs and work areas should be physically attractive. Take care to properly set up all learning centers. Place equip-

ment, tools, furniture and machines in logical, and possibly, sequential order. With carefully printed and easy-to-read labels, mark all important objects. As a teacher of dental assistants, you would probably label, among many other objects, the following:

Mobile Dental Units	Analgesic Apparatus
Modular Cabinets	Evacuating Machines
Pedestal Units	Ultraviolet Equipment
Hydrocolloid Conditioner	Rotary Cutting Discs
Mechanical Amalgamator	

These labels help everyone in class for both reading and locational purposes. They also assist students in becoming familiar with scientific equipment they've never seen before. As previously described, they are also invaluable to bilingual readers as vocabulary aids. Keep these signs or labels on for six to eight weeks until the words become almost automatic to everyone. This helps build a basic sight vocabulary in dental assisting. Then, unless for extenuating circumstances (students with poor vision), take them away without prior announcement one day in late October. By this time, most pieces of key equipment should be second nature to the entire class.

Be certain to set up a small classroom reading center, preferably in a quiet corner, where pupils may browse among dental-related magazines, excerpts, journals and books. You might want to include such publications as the *Journal of the American Dental Association, Accepted Dental Therapeutics, Guide to Dental Materials, Devices* and excerpts from the *United States Pharmacopeia*. In addition, newspaper and magazine articles of interest to the field should be available for pleasure reading. Be sure to place several dictionaries and reference books in the reading center as well. Encourage the class to bring in articles and pictures related to the field and display significant copies.

Students should be encouraged to spend a few minutes each week in the reading area. This is an important method for building interest and motivation in readers. It also gives the gifted reader the opportunity for creative reading and thinking and at the same time provides remedial students with a chance to practice for skills improvement.

Pupil Observation

Many an experienced teacher will agree that one of the better ways to determine a student's level of reading habits and skills is to observe that student carefully for several weeks at the beginning of the term. A list of behavior to observe in all class members should include:

1. Pay attention to the distance readers hold printed materials from their eyes. Persons with good vision generally hold the page 12 to 18 inches away.
2. Look for unusual head, facial (eye squinting) or lip movements as these could also indicate vision problems.
3. Watch for students who are easily distracted while reading or who lose their place often while reading. This could be an indication of poor motivation, little respect for the reading process, poor health habits or lack of sleep.

4. Observe readers who have to constantly ask their peers questions about the meanings of words, terms and complex sentences. This could be an indication of poor word attack skills and lack of comprehension.

Call upon all students at some time during the opening weeks of school to read several sentences orally to you. Be sure to do this on an individual basis and never place any person in an embarrassing situation where he or she will be subject to ridicule by peers. However, by asking readers to perform such a task, you will immediately be able to identify your remedial readers as they will, no doubt, stumble upon words, leave sentences unfinished and not recall what they just read. Your poor readers can be immediately referred to appropriate adjunct services for specialized assistance.

After you have listened to everyone in class read, you should now compare their informal, oral skills to their standardized test scores. You should be able to ascertain similarities between both tests. For instance, the students who stumbled over words while reading to you should have low vocabulary grades on the standardized test. The students who couldn't complete a sentence orally probably have low comprehension scores.

With all of this information, you are now ready to begin grouping your students informally for the remainder of the year. This is a significant step as it will greatly assist you in helping all readers when it comes time to begin in-depth vocational training.

Informal Student Grouping

With the results of the standardized reading scores, coupled with the ITI records and personal observations, the remedial readers in class are each paired with another student who has strong reading credentials. In other words, a "buddy" system is set up linking a weak reader with a stronger one. This is called peer grouping in specialized reading classes and many school districts, notably New York City, have had great success employing it. Initial research indicates that poor readers show significant gains in the subskills of reading when paired with a colleague, and good readers also increase their reading abilities as they reinforce their own skills by teaching others. In addition, bilingual learners benefit, because where they might be too shy or embarrassed to ask a routine question to a strange adult, they are less apprehensive asking a friendly classmate.

Only teachers are responsible for setting up the groups and there must be careful planning and flexibility involved. Personality clashes obviously warrant a pair change and students are generally grouped by:

1. Sex—male to male, female to female.
2. Compatibility—there must be harmony between both students in the pair.
3. Reading scores—a weak reader is assigned to a strong reader.

Students will work in pairs only when they are given lengthy or complex reading assignments or project work. The groups are not in effect every single minute of every day! Basically, the good reader will assist the counterpart where possible with some vocabulary development, factual information and main ideas, following directions and note-taking. Helping to look up unexplained words in the dictionary, checking answers to problems and memory recall are tasks performed by the better reader.

For instance, at the end of the week, the pair knows there will be a class quiz on the internal parts of the X-ray machine. To prepare they quiz each other using the following exercise:

Match Column A to Column B

Column A	*Column B*
focusing cup	positive charge component containing tungsten
focal spot	negative charge component also containing tungsten
copper heat radiator	small target spot where electrons are focused
aperture	metal disc, negatively charged, next to cathode
cathode	glass opening for exit of X-rays
anode	decreases heat amount during the emitting of X-rays at the anode

By working together on the above exercise, both readers are learning and/or reinforcing their vocabulary skills and facts/details skills.

As the teacher, you must guide the groups in terms of directions, structure, rules and assignments. For instance, directions will include such statements as "Bob, please help Jerry with the seven key terms on page 414" or "Rosa, please show Maritza the differences between the two electrical circuits which control the X-ray generators." Both of these requests cover curriculum already discussed in class but which the slow readers had difficulty grasping.

A peer *never* becomes a teacher substitute, but rather, serves almost as a teacher aide. And as the weeks progress, the individual pairs can work on complicated equipment together, do joint research projects or give class demonstrations.

Finally, remember that it is not essential for every student to have a partner. There are gifted learners who become hampered by working with slower learners; there are students who will refuse to work with others. Do not force anyone upon anyone else.

In addition to the improvement in reading skills which should become evident shortly, teachers should find themselves with more class time and fewer student interruptions, since many minor questions that ordinarily would have to be answered in class can be answered by the peer in group work.

Use of Adjunct Staff

The quicker the vocational instructor takes advantage of the school's adjunct professionals, the more successful the year will be. As discussed in Part IV, the school librarian and reading specialist play vital parts in the total reading program. The first several weeks of the term, you should prepare a list of outside readings and key topics you expect the class to read. These can be read in the form of honors work, research assignments, projects, extra credit work or recreational pleasure reading. Give this list to the librarian and request that books pertaining to the topics be identified and put on the reserve shelf so they'll be available when your students go to the library.

Request the librarian to suggest related topics that might be researched by the class. Give the librarian the names of books and publications you wish to have purchased by the school for future use. Reserve dates in advance to take the entire class or groups of students to the library. Topics you might wish students to research could include origins of dentistry, development of modern dentistry, famous persons in the world of dentistry, the development of uniforms in dental assisting and Hippocrates' role in early dentistry.

As with the librarian, the reading specialist can be of immediate value. Part IV offers various ways the reading personnel can assist you in September. Request the reading specialist to help you with:

- classroom organization for better skills retention
- grouping of students for peer assistance
- evaluation of textbooks/printed materials
- enrichment reading for the gifted reader
- tutorial programs for the remedial student
- establishing the classroom reading center

NOVEMBER THROUGH MAY

The heart of the school year will find the class actively involved in the individual units of study. Part II examines the importance of the basic reading skills of your content area, especially vocabulary development, comprehension skills and proper study habits. A few minutes each week devoted to these skills will go a long way toward eliminating and curtailing many reading problems. And just as important, the curriculum will be learned.

Just by glancing at a typical unit in any current dental assisting textbook, one can observe the importance of teaching the necessary reading skills with the required content materials. Common words, in a chapter on oral pathology, can include among others:

phagocytosis	hyperkeratosis
granulation	granulomas
degeneration	fistula
hypoplasia	white decay
neoplasia	oseteomyelitis
metastasis	apposition
carcinomas	anodontia
anomalies	odontoblasts*

Not only will below-grade level readers experience difficulty with such new terms, but so will many developmental readers. Be certain to employ the vocabulary-concept sheets and the study aid sheets as exhibited in Part II. They are critical for vocabulary and comprehension development. Be sure to spend a few minutes each week previewing and reviewing key words, terms and symbols. Select key paragraphs from your printed materials and read them orally and

*Richardson, R. E., and R. E. Barton, *The Dental Assistant* (New York: McGraw-Hill Book Company, 1978), pp.151–165.

clearly to the entire class so they can hear the proper pronunciation of technical words from *your* lips. The self-study questions for comprehension improvement are essential for technical teaching areas as dental assisting. Provide adequate copies for every reader.

With bilingual students in dental assisting, it is important to remember that variety in teaching methods is conducive to learning. This also holds true for very remedial readers. Take the emphasis off of reading technical materials several times weekly and employ audio-visual materials, guest speakers and tape recordings. Field trips and community visits are valuable alternatives to reading, so plan a trip to a nearby college of dentistry or a large dental clinic. Remember also that teaching techniques as these improve motivation and encourage reading upon return to the classroom. Refer to Part III for alternates to constant reading and lecturing as the main sources of teaching.

A masterful, admired teacher was once asked how she kept the attention of a very difficult junior high class for an entire year with good learning results. She replied, "I talked, shouted, read out loud, showed films, planned trips, gave problems, brought in guests, assigned reports and provided plenty of materials besides the book!" Herein lies a principle of contemporary teaching methodology—if we provide many ways for students to learn, they will.

JUNE

The last month of school should be a wrap-up, not a let-down, period. After a year of instruction, group work, emphasis on curriculum and key reading skills, most students should show improvement. The potential exists for this to be a rewarding time for both teacher and class.

It is suggested that the teacher spend several minutes with every student individually. These appointments should be spread over several weeks in June so there is no strain with normal school closing procedures. In these conferences, the teacher can point out to each student his or her areas of improvement.

This is a time to stress the strides students have made. Pupils sometimes fail to recognize just how well they have done. Let them know you are aware of their progress. Mention their strong areas and the potential that exists to develop further. Let the year end on an upbeat note so students can leave for the summer feeling pleased with themselves and the work they've done and looking forward to more challenges to come.